

REMARKS

Claims 8-19 are currently pending with claims 8 and 14 being independent. The Office Action indicates that both independent claims 8 and 14 stand rejected as being obvious over Caprino (WO 02/080409) in view of Arecco (U.S. Pat. App. Pub. No. 2003/0194232). It is respectfully submitted, however, that neither reference alone or in combination teaches or suggests every limitation of the independent claims. Further, it is respectfully submitted that there is no reason for one skilled in the art to even attempt to combine the cited references because both references disclose methods that are incompatible with each other.

Beginning with claim 8, it is directed to an optical add/drop amplification node configured to communicatively interconnect first and second optical fiber spans in an optical telecommunications system. Claim 8 recites two distinct input amplifiers. The first input amplifier is arranged to output amplified spontaneous emission (ASE) noise, such that the output power of the ASE noise compensates for a loss of signal power due to break in the first optical fiber span. The second input amplifier "generate[s] the compensating ASE noise responsive to a failure of the first input amplifier."

The Office Action acknowledges that the primary reference, Caprino, does not teach or suggest, "a second input amplifier configured to generate the compensating ASE noise responsive to a failure of the first input amplifier," for which Arecco was cited. However, Arecco, does not remedy Caprino.

Arecco discloses a system and a method of transmission switching through an optical communication system. That is, Arecco teaches switching the transmission of an optical signal from a first primarily guided optical path to a secondary guided optical path when the transmission in the first primarily guided optical path degrades. *E.g.* Arecco, ¶[0003]. For example, Figure 2 of Arecco illustrates the optical transmission path (1) as comprising three optical transmission amplifiers (11, 12, 13), and an independent, separate optical path (2)

comprising a completely different set of optical amplifiers (21, 22, 23). Each optical amplifier (11, 12, 13, 21, 22, 23) is interconnected by respective sections of optical fiber cables (100, 200). *E.g.*, Arecco, ¶[0070-71]. According to Arecco, if the optical transmission path (1) should experience a failure, switches (41, 42) are operated to switch the transmission of the optical signal (300) from the optical transmission path (1) to the independent optical transmission path (2).

Thus, Arecco teaches that the transmission of an optical signal is switched to a completely different guided optical path whenever a fault in the path is detected, or whenever the performance of an optical amplifier or an optical fiber cable is degraded. *E.g.* Arecco, ¶[0082]. Changing transmission paths does not teach or suggest, “a second input amplifier configured to generate the compensating ASE noise responsive to a failure of the first input amplifier,” recited in claim 8. In a transmission system, generating noise is the opposite of transmitting a signal. Therefore, since both references alone fail to teach or suggest this limitation, their combination also fails to teach or suggest this limitation, and the references cannot render claim 8 or any of its dependent claims obvious.

Additionally, there is no reason for one skilled in the art to make the proffered combination. Both Caprino and Arecco provide alternate solutions for handling a fault occurring in an optical path, and those solutions are incompatible. *E.g.*, Caprino, ¶[0003]; Arecco, ¶[0082]. Caprino discloses a first amplifier that amplifies ASE noise to compensate for the power of the channels lost due to a detected fault so that the added channels are not lost. Only the channels added at the Add/Drop (A/D) are transmitted; all others are lost. Arecco teaches switching the transmission of the optical signal away from the broken path altogether so that all input signals are transmitted and none are lost. The two approaches – salvage all signal transmissions by using an alternate transmission path (as in Arecco) and losing all input signals

but adding noise to salvage added signals (as in Caprino) – are fundamentally incompatible.

The references cannot be combined.

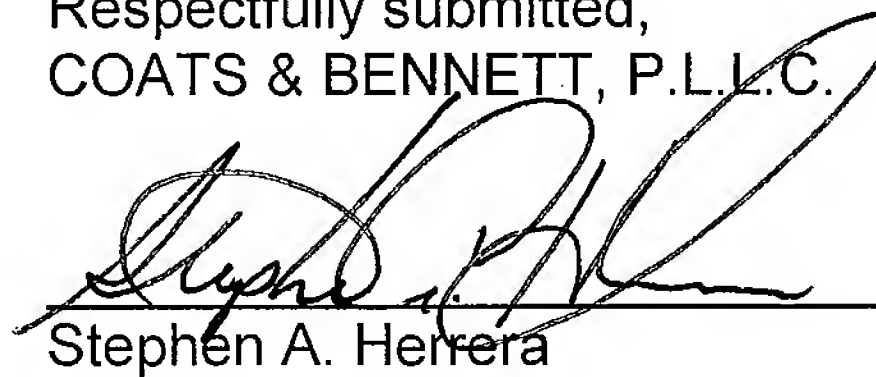
Thus, for at least the foregoing reasons, neither claim 8 nor any of its dependent claims are rendered obvious over Caprino in view of Arecco.

Claim 14 is the corresponding method claim and also stands rejected as being obvious over Caprino in view of Arecco. However, claim 14 recites, “generating the ASE noise at a second input amplifier communicatively coupled to the first input amplifier responsive to detecting a failure of the first input amplifier.” Therefore, neither claim 14 nor any of its dependent claims are rendered obvious over Caprino in view of Arecco for substantially the same reasons as those stated above.

Claims 11 and 15-18 stand rejected as being obvious over Caprino in view of Arecco and in further view of Ishimura (U.S. Pat. No. 5,440,418). However, claims 11 and 15-18 are patentable over the art of record because their respective independent claims are allowable over the prior art of record. Further, Ishimura does not remedy the deficiencies of either of Caprino or Arecco. Therefore claims 11 and 15-18 are patentable over the cited references.

In light of the foregoing remarks, Applicant respectfully submits that all pending claims are in condition for allowance. Therefore, the Examiner is respectfully requested to issue a Notice of Allowance for all pending claims.

Respectfully submitted,
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